

REMARKS/ARGUMENTS

Claim 7 has been canceled. Claims 1-6 and 8-11 are pending. Reconsideration is respectfully requested.

Claim Rejection, 35 USC 112

As to the matter of the term ‘gradually increased’ in Claim 1, applicants submit that one of skill in the art, performing the present as described in the claim and thereby knowing the amounts of reactants being passed into the reactor and observing the stated restriction on the amount of hydrogen chloride converted, would very readily be able to gradually increase the amount of unreacted hydrogen chloride that is passed back to the reactor. The fact that the claim does not specify an amount or range of amounts of hydrogen chloride that is recycled to the reactor is not a hindrance to one of skill because he would readily be able to discern how much unreacted hydrogen chloride to recycle to the reactor in order to increase the life time of the catalyst. Accordingly, the indicated phrase does not raise a question of indefiniteness in the claim.

As to the matter of all of the unreacted hydrogen chloride being recirculated to the reaction system as stated in Claim 2, it is clear on its face what is intended and that is that all of the unreacted hydrogen chloride is returned to the reactor over the period of time the reactor is operated. The meaning is not more complicated than this. The meaning of Claim 2 is therefore not dependent on a before or after “gradual increase” in recycled hydrogen chloride. Obviously, it would seem that as the proportion of the unreacted hydrogen chloride recycled is increased over time, then the rate of recycling of the unreacted hydrogen chloride to the reactor would increase. In any event, the meaning of Claim 2 is clear.

Claim 7 has been canceled. Withdrawal of the rejection is respectfully requested.

Prior Art Rejection.

It is clear that the Johnson et al '961 patent is relevant prior art because it discloses a method of producing chlorine gas by reacting hydrogen chloride over a catalyst in a continuous operation under conditions where significant amounts of hydrogen chloride are not converted to product. However, what the Examiner does not comment about is the important aspect of the invention which is that after unreacted hydrogen chloride is separated from the gases including chlorine that exit the reactor, it is recycled to the reactor, not only for further consumption, but at a gradual increase in rate so as to extend the operational life of the catalyst. On the other hand, although there is a disclosure in the Johnson et al patent of a recirculation of HCl to reactor 12, there is no teaching or suggestion of a recirculation of the acid to the reactor under the specified circumstances of the claim, wherein the proportion of the HCl that is circulated is gradually increased in order to extend the operational life of the catalyst. There is absolutely no disclosure in the patent that suggests that recycling of the HCl in a gradually increasing amount does not show or suggest the recycling of unreacted hydrogen chloride to the reactor in order to positively extend the lifetime of the catalyst which is used. Accordingly, Johnson et al does not suggest the present invention and withdrawal of the rejection based on 35 USC 102 and 35 USC 103 is respectfully requested.

As to the matter of the rejection of the claims in view of the combination of Johnson et al '961 and the British patent, applicants retain their position fully as stated above with respect to the '961 patent. The disclosure of the British patent is not additive to the '961 reference, because the inventive feature of the reference is the ruthenium compounds are especially effective in promoting the oxidation of hydrogen chloride to chlorine gas. There is no teaching or suggestion of the recycling of unreacted hydrogen chloride to the reactor that is employed in the reaction. Thus, the British patent is of secondary interest only and withdrawal of the rejection based on 35 USC 103 is respectfully requested.

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In view of the above amendments and remarks, the Applicants respectfully submit that this application is now in condition for allowance. Early notification to that effect is earnestly solicited.

Respectfully submitted,


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